

Compass, and set in a plainer Light; and if it be agreeable, I shall, on this Occasion attempt to do it.

In the mean time, Sir, it will not, I hope, be thought impertinent in me to offer these Remarks upon the Plan that has been laid before us, of an Art which I have taken so much Pains to cultivate, and bring to that Perfection which my first and last Intention of introducing one common Standard, for the general Practice of it, requir'd.

If I have succeeded, Gentlemen will, I persuade myself, concur to facilitate the Design; which tho' the Accidents of Life, at a Distance from this Place, have hitherto retarded, I am intent upon accomplishing to the utmost of my Power.

I thank you, Sir, for the many Marks of Friendship which you have shown me, and am

Your obliged humble Servant,

J. Byrom.

III. *Part of two Letters from Mr. B. Cooke F.R.S. to Mr. Peter Collinson F.R.S. concerning the sparkling of Flanel, and the Hair of Animals in the dark.*

I.

Newport, Isle of Wight, May 19. 1748.

Dear Cousin,

Read June 23. 1748. I FANCY at last this Sparkling of the Flanel *, and such-like Bodies, will be found to be quite electrical: And it is possible, I conceive

* See *Phil. Transf.* n. 483, p. 457.

conceive, that the acid Steams of the Sulphur, burnt under the extended Flanel in the Time of bleaching, may unite themselves with the Oil (with which Hair, as well as Horns, are found by Analysis to be replete), and form an animal Sulphur, which, upon Friction, Vibration, or any nimble Agitation of these Hairs, may become luminous.

And that something like this may be in the Case seems not improbable ; since it hath been observed, that this Appearance hath happened most conspicuous in frosty Weather ; in which Season there is generally not only a greater Purity of the Air, and Absence of Moisture ; but all hairy and horny Substances (and Hairs you know are but small Horns) are more elastic, and consequently susceptible of, and capable of exciting, the strongest Vibrations. And, on the contrary, the lixivial Salts used in washing may destroy the sulphureous Acid, and discharge the Oil ; whence the Hairs will become more flexible and limber, and be rendered less fit for exciting the electrical Fire. And the same may happen when Flanel is much worn, and by that means filled with the alkaline *Effluvia's*, which go off from most (of the higher Order of) Animals by Transpiration ; which may dissolve the animal Sulphur, weaken the Spring of the Hairs, and so render the Phenomenon more difficult. I am,

My good Friend,

Most sincerely yours,

Benj. Cooke.

II.

*Dear Cousin,**Newport, June 1. 1748.*

IT should have been mention'd, that the Flanel had been worn but few Days; and that it was immediately upon shaking the Under-Coat from that which was worn above it, that the Sparks were emitted; and that their Appearance was in a broad Streak almost contiguous, attended with a Crackling or Snapping, like what may be observed on moving the Finger nimbly along over the prime Conductor, when excited in the electrifying Machine; of which the Lady was able to form a Comparison, having afterwards seen some Experiments of that sort.

This Appearance returned at the same time, and on the same Occasion, two or three Nights after, but more languid, till it was quite lost.

A Lady, who was informed of this, lessened the Surprize (which had been thought almost ominous) by assuring, that she had seen the same Phenomenon often in new Flanel, but never in any that had been long worn or wash'd: And that the Flanel being render'd damp with Sea-Water, and afterwards dried, would heighten the Flashing which she imputed to the Sulphur us'd in bleaching. However that be, I shall only observe, that these Sparklings had the crackling Criterion of electrical Fire; and that Hair and Wool, as well as Silk, are Electrics *per se*, and unctuous and sulphurous Bodies more electric than others of the same Density.

Dr. *Wall* hath oblig'd the Public with a curious Dissertation on a similar Subject, which I guess would
be

be particularly entertaining while you are on this Speculation. See *Phil. Trans.* N°. 314, p. 69.

Bartholin supposes unctuous *Effluvia* to have a great Share in these Appearances: His Words are these, which I chuse to quote; the Book * *de Luce Animalium* being not very common: “ Imo quod
“ admirationem excedit, collectæ oleaginosi effluvii
“ reliquæ, longo interjecto tempore, in scintillas
“ resolvuntur: si enim fascias vel ténias serico textas,
“ sed usu detritas, leviter excutiamus, igniculi susci-
“ tantur et scintillæ:”--- and quotes a Passage out of *Gesner de Herbis lucentibus*, to confirm his Opinion.

The same Writer tells us, that *Theodore Beza* was to be seen in the dark, “ ob fulgorem externum
“ circa oculorum orbes;” — but whether this Light proceeded from the Ball of the Eyes, or Hairs of the Brows or Lids, he does not mention. — Nor is that learned Author so exact in some other Circumstances in other Examples of this sort as could be wish'd. However, I think what he says of the Duke of *Mantua* deserves a Remark. — “ Quicquid
“ sit, pro vero habendum est quod de *Carolo Gonzaga Mantuæ* Duce constans fama tulit, levi per
“ totam cutem facta *friktione* flagrantés species exire
“ solitas.” — But here also it were to be wish'd he had let us know whether this great Man, of a most illustrious Family, had not some particular hairy or scaly Texture or Covering to his Skin.

By this, I guess, you are excited to know how this Author, who liv'd about a hundred Years past, solves

* *Tho. Bartholinus de Luce Hominum et Brutorum, lib. iii. Hafniæ 1669, 8º.*

solves these Appearances, of which he had professedly wrote. Take it in his own Words.—

“ *Aristoteles* (l. i. m. m. cx.) docebat — quod
 “ omnis natura ejus sit essentiae procreatrix, qualis
 “ ipsa est — enimvero sunt ad conservationem speciei
 “ omnis, ejusdem singulae particulæ, vim se diffundendi obtinuerunt, et spargendi, per individua
 “ multiplicata, ita ne lux primæva et naturalis, singulari numinis consilio, elementorum mixtioni
 “ addita, mole minor intercidat, et extinguatur cum
 “ speciei non revocando casu, eo modo conservari
 “ debuit, quo servantur omnia, per insitam naturæ
 “ potentiam sui generativam, &c.”

IV. *A Letter from the Reverend Mr. John Forster to Mr. Henry Baker F.R. S. concerning an Earthquake at Taunton.*

S I R,

Read June 15. 1748. **I**N Answer to your Inquiries concerning the Earthquake, which happen'd last Year on the first Day of *July*, when I was at *Taunton* in *Somersetshire*, after taking some Pains to inform myself more particularly what other People observed in different Places, you may depend on the Truth of what follows.

Between Ten and Eleven o' Clock at Night, on the said first Day of *July* 1747. being myself in some Company at *Taunton*, we were suddenly surpris'd with a rumbling Noise like distant Thunder, which was followed immediately by so considerable a Motion